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ABSTRACT

A major aim of the social studies according to state and local educational goals is to foster students' thinking skills. This study was conducted to determine, according to Bloom's taxonomy, the levels of questioning generated by third-grade social studies textbooks. It examined the extent to which each selected textbook emphasized higher levels of questioning (above knowledge level) and compared the textbooks' frequency ratings of knowledge- and above-knowledge-level questioning. The two series selected for study were: "Communities: Harcourt Brace Social Studies" (2000) and "Communities: Macmillan-McGraw Social Studies" (1997). Lesson plans and accompanying questions for in-class use were obtained for classification. Three raters were trained in question classification using the six major categories of Bloom's taxonomy (1956). Based on the assumption that the Harcourt Brace and Macmillan-McGraw textbooks are representative of all new social studies textbooks, an encouraging trend emerges from the study's analysis. These textbooks offer opportunities for applying and evaluating information in higher order question-and-answer classroom recitation previously omitted in textbook publications. Findings suggest that elementary students exposed to the most recent editions of social studies textbooks will have opportunities, as encouraged by questions included in teachers' editions, to understand, apply, synthesize, and evaluate critically social studies concepts. Contains table, 2 figures, and 19 references. (BT)

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Cognitive Levels of Questioning Demonstrated by New Social Studies Textbooks: What the Future Holds for Elementary Students

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Running head: COGNITIVE-LEVEL QUESTIONING IN NEW SOCIAL STUDIES TEXTS

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A major aim of the social studies according to state and local educational goals is to foster students' thinking skills. Indeed, an examination of curricular materials including textbooks reveals that critical thinking is paramount among desired learning outcomes. Realization of this goal is doubtful, however, if elementary students are treated to a meager intellectual diet offering little more than mere memorization of social studies facts.

Although the recurrent theme of social studies literature has accentuated the topic of higher level thinking, instructional practice has changed very little during the past century. Research has indicated that textbook-dominated instruction prevails and the major portion of allocated social studies time is spent reading and reciting information from the text (Woodward, 1993; Woodward & Elliot, 1990). Therefore, social studies instruction and ultimately a pupil's train of thought most often parallel the cognitive level(s) of the textbook.

A rapidly changing, technologically advanced world necessitates that students develop the ability to make adaptations, think creatively and critically, and solve complex problems. To reach the oft-stated goal of critical thinking in the social studies, the curriculum must afford its participants an opportunity to engage in problem-solving exercises. The role of questioning in developing critical thinking skills has been well documented in the literature. Taba, Levine, and Elzey (1964), in discussion of its importance, referred to questioning as "the most influential teaching act" (p. 53).

Indeed, the literature has substantiated the role of higher cognitive questioning in evoking critical thinking (Andre, 1979; Doak, 1970; Hunkins, 1970; Redfield & Rousseau, 1981; Taba et al., 1964). In this regard, teachers actually define the limits of student thought through their questioning strategies; thus, students who receive memory-only questions are never challenged to exercise critical thinking skills.

Because teachers rely heavily on textbooks and the accompanying teachers' editions as the primary source of social studies instruction (EPIE, 1979; Hertzberg, 1981; Weiss, 1978; Woodward, 1993; Woodward & Elliot, 1990), elementary social studies textbooks and their accompanying resource materials (i.e., teachers' editions) must be analyzed to determine their capacity to promote development of higher level thinking skills. A central concern is: What levels of questioning are included in elementary social studies teachers' manuals for classroom use?

Over the past decade, two recurrent trends have emerged in the textbook marketplace. First, teachers' manuals are extremely comprehensive, including numerous options for teachers to use with each existing chapter of social studies content. Although teachers' editions have changed significantly in recent years to include a wealth of lesson plan options, one component remains unchanged: the preponderance of questions interspersed throughout the individual plans designed to parallel the text segment targeted for instruction and classroom discussion. Research has indicated that teachers continue to rely heavily on such lesson plans (Armbruster & Ostertag, 1989; Armbruster & Others, 1990; Seminoff, 1990; Woodward, 1993).

Second, due to the competitive marketplace that exists among textbook publishers, each company has expanded the list of ancillary materials that accompany its textbook series. It is common for each publisher to provide supplementary materials such as study guides, chapter-end and unit tests, posters, maps, parent letters, and the like. Because of the social studies goals related to critical thinking cited at both the national and state levels, the competition necessitates publishers to preface their texts with impressive claims that their materials elicit higher order thinking skills. Indeed, an analysis of publications dated 1997 through 2000 claim the inclusion of "divergent and open-ended questions" as well as questions reflective of "Bloom's higher levels." Even though this renewed emphasis on critical thinking claimed by textbook publishers is refreshing, teachers must ask: Have the new social studies textbooks changed my approach to questioning to include critical thinking?

As of this writing, no researcher has reported studying the cognitive levels of elementary social studies questioning that accompany the new (i.e., 1997-2000) teachers' editions designed for recitation during classroom lessons. Identified research related to textbook questioning in the area of elementary social studies has proved to be quite dated (Davis & Hunkins, 1969; Marksberry, 1969) and to have focused on questions included in students' books for use after reading a segment of text (i.e., end-of-chapter questions).

Our purpose in this study was to determine, according to Bloom's (1956) taxonomy, the levels of questioning generated by third-grade social studies textbooks. We also examined the extent to which each selected textbook emphasized higher levels of

questioning (above knowledge level) and compared the two textbooks' frequency ratings of knowledge- and above-knowledge-level questioning.

Method and Procedures

Materials Selection

Information regarding social studies textbook adoption was compiled from the state departments of education of Alabama, California, and Texas. This information was used to rank order the third-grade social studies textbook series used most frequently for these states. As a result, the two series selected for study were (a) Communities: Harcourt Brace Social Studies (2000), hereafter referred to as HBJ; and (b) Communities: Macmillan-McGraw Social Studies (1997), hereafter called Macmillan.

Lesson plans and accompanying questions for in-class use included in the teachers' editions of the HBJ and Macmillan social studies texts were obtained for classification. These lesson plan questions related to the text segment currently targeted for reading, recitation, and classroom instruction. For each textbook, 100 questions were randomly selected for analysis.

Raters and Question Classification

Three raters were trained in question classification using the six major categories of Bloom's (1956) taxonomy: (a) knowledge, (b) comprehension, (c) application, (d) analysis, (e) synthesis, and (f) evaluation. Prior to the study, these raters obtained an interrater agreement of .98 on a sample of social studies questions not included in the actual classification analysis. For the study, the 200 textbook questions were rated independently by the three raters, the results were compared, and the questions were

placed in the classification category ascribed by the majority of raters. Interrater agreement achieved during the actual classification study reached 94%.

Results

Table 1 shows the frequency distribution of the question classification for 100 randomly selected questions in each of the two social studies textbooks. As indicated in Table 1, a total of 76 (38%) questions in the two textbooks were judged as knowledge-level questions (i.e., lower order, with emphasis on memorization of social studies facts)

Insert Table 1 about here

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whereas 124 (62%) questions were rated as above-knowledge-level or higher level questions (i.e., higher order, with emphasis on understanding and/or applying social studies information). A chi-square goodness-of-fit comparison of knowledge- and above-knowledge-level questions yielded a significant ($p < .001$) chi-square value of 11.52, indicating that the two textbooks significantly emphasized higher order over lower order questioning (see Figure 1 for graphical representation of this finding). A chi-square test

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Insert Figure 1 about here

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for independence determined a significant difference ($\chi^2 = 29.05$, $p < .001$) existed between the two textbooks in the number of knowledge- and above-knowledge-level questions. This comparison indicates the HBJ third-grade social studies textbook

contained significantly more higher order questions than the third-grade Macmillan social studies textbook (see Figure 2 for graphical representation of this finding).

Insert Figure 2 about here

Discussion

Based on the assumption that the HBJ and Macmillan textbooks are representative of all new social studies textbooks, an encouraging trend emerges from the analysis conducted in this study: These textbooks offer opportunities for applying and evaluating information in higher order question-and-answer classroom recitation previously omitted in textbook publications (Sewall & Emberling, 1998; Seminoff, 1981), indicating a new emphasis on cognition rather than focusing on memorization and recall of isolated bits of factual information. Previous literature has consistently identified a gap between the stated goals of elementary social studies and actual classroom practices, particularly in the emphasis textbooks have placed on higher order thinking (e.g., Woodward, 1993). The evidence presented in this study suggests that elementary students exposed to the most recent editions of social studies textbooks will have opportunities, as encouraged by questions included in teachers' editions, to understand, apply, synthesize, and evaluate critically social studies concepts. Indeed, research has indicated that questions from teachers' editions in elementary social studies texts are used extensively for classroom recitation (Woodward, 1993; Woodward & Elliot, 1990; Hertzberg, 1981) if exposing students to critical thinking skills through a balance of cognitive questions is an integral

part of the elementary social studies text, the HBJ and Macmillan textbooks meet that objective well.

Although a statistically significant difference between the textbooks indicates that HBJ is superior to Macmillan in the area of higher level questioning, it is an important finding that Macmillan included a near-even split in its emphasis of knowledge- versus above-knowledge-level questioning. This cognitive balance in the levels of questioning is welcome information and should be applauded given the meager inclusion of higher level questions in previous publications. It should be remembered that questions included in teachers' editions impact the quality and depth of concept discussion during an in-class lesson. If successful social studies is equated solely with an ability to memorize a given body of knowledge, as social studies textbooks historically have promoted, students are deprived of a challenging intellectual experience. As Taba et al. concluded as early as 1964, "Teachers either enhance or limit student thought with their questioning" (p. 54). Further, teachers and curriculum specialists must consider this and other studies of questioning levels with regard to the fundamental goals of social studies, which are knowledge, skills, values, and social participation. For example, no amount of memorization can foster an adequate development of map and globe skills; students must be actively involved in using these skills in various situations to attain mastery. Similarly, students must participate in group life in order to attain social process skills. Concept learning, which is a vital part of the social studies curriculum, cannot occur in a setting that promotes memorization of facts alone because committing a concept definition to memory will not ensure true learning.

The data obtained from the current research imply that students who respond to questions included in the teachers' edition of the Macmillan textbook will receive balanced levels of questioning. More exciting, however, is the preponderance of higher level questions demonstrated by the HBJ textbook teachers' edition. In order to answer the majority of questions in the HBJ textbook, students must demonstrate higher cognitive abilities such as application and evaluation. Having analyzed the cognitive emphasis of questioning in social studies textbooks in the early 1990s, and noting from the present study's data consistent attention to questioning in the above-knowledge levels of Bloom's (1956) taxonomy, we recognize an unparalleled shift both publishers' effort to bridge the gap between stated goals and philosophies about textbooks and actual textbook content. We hope that publishers of future elementary social studies texts will follow and improve upon the existing models that were examined in this research.

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Table 1

Frequency of Questioning for Two Social Studies Textbooks According to Bloom's Taxonomy

Category	Questions		Total	
	HBJ	Macmillan	Number	%
Knowledge level	19	57	76	38.0
Knowledge	19	57	76	38.0
Above knowledge level	81	43	124	62.0
Comprehension	17	15	32	16.0
Application	25	6	31	15.5
Analysis	11	8	19	9.5
Synthesis	8	1	9	4.5
Evaluation	20	13	33	16.5
Total	100	100	200	100.0

Figure Caption

Figure 1. Significant ($p < .001$) emphasis demonstrated by HBJ and Macmillan textbooks (combined) on above-knowledge-level as opposed to knowledge-level questioning.

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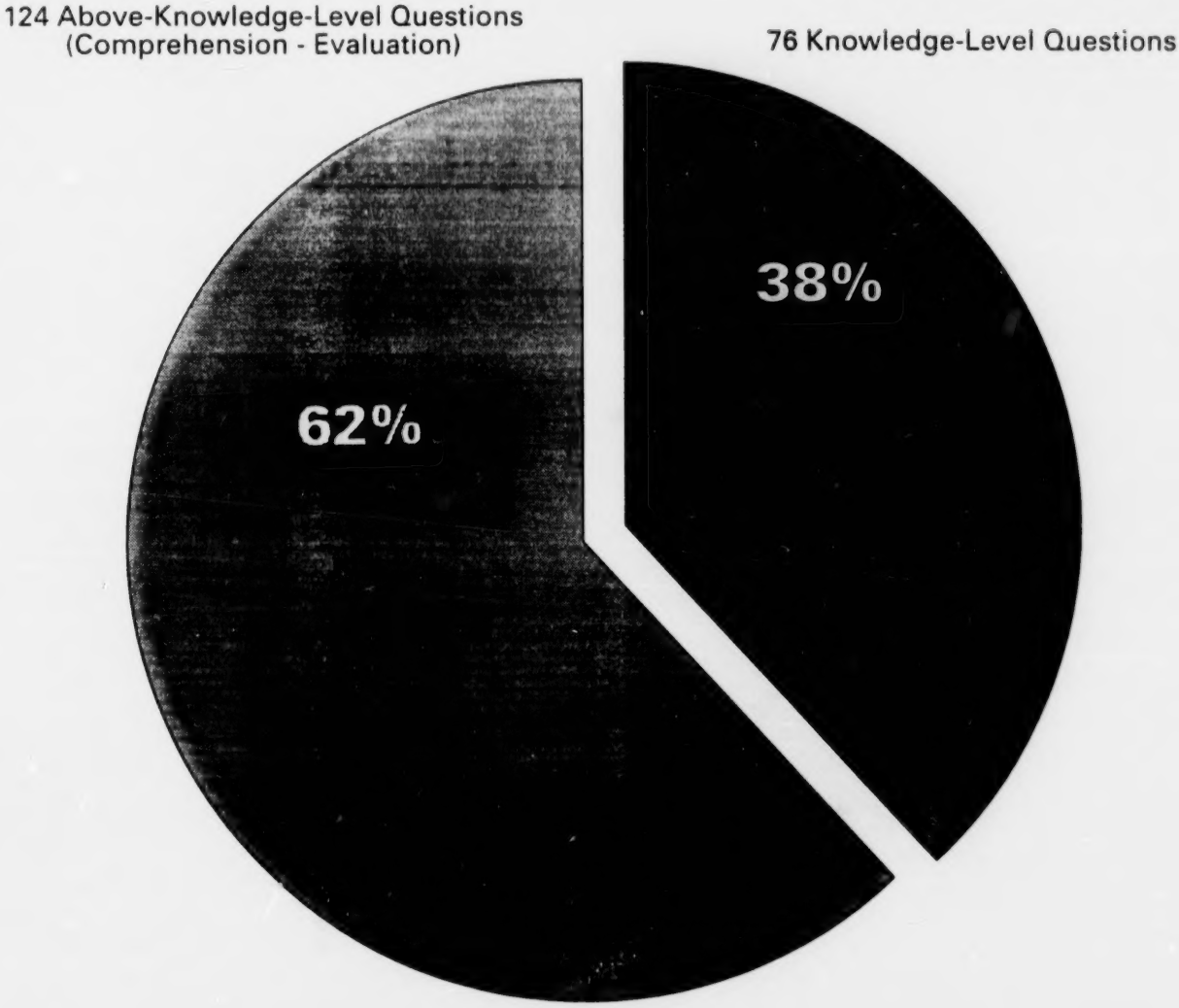

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Figure Caption

Figure 2. Significant ($p < .001$) emphasis demonstrated by the HBJ over the Macmillan textbook on above-knowledge-level as opposed to knowledge-level questioning.

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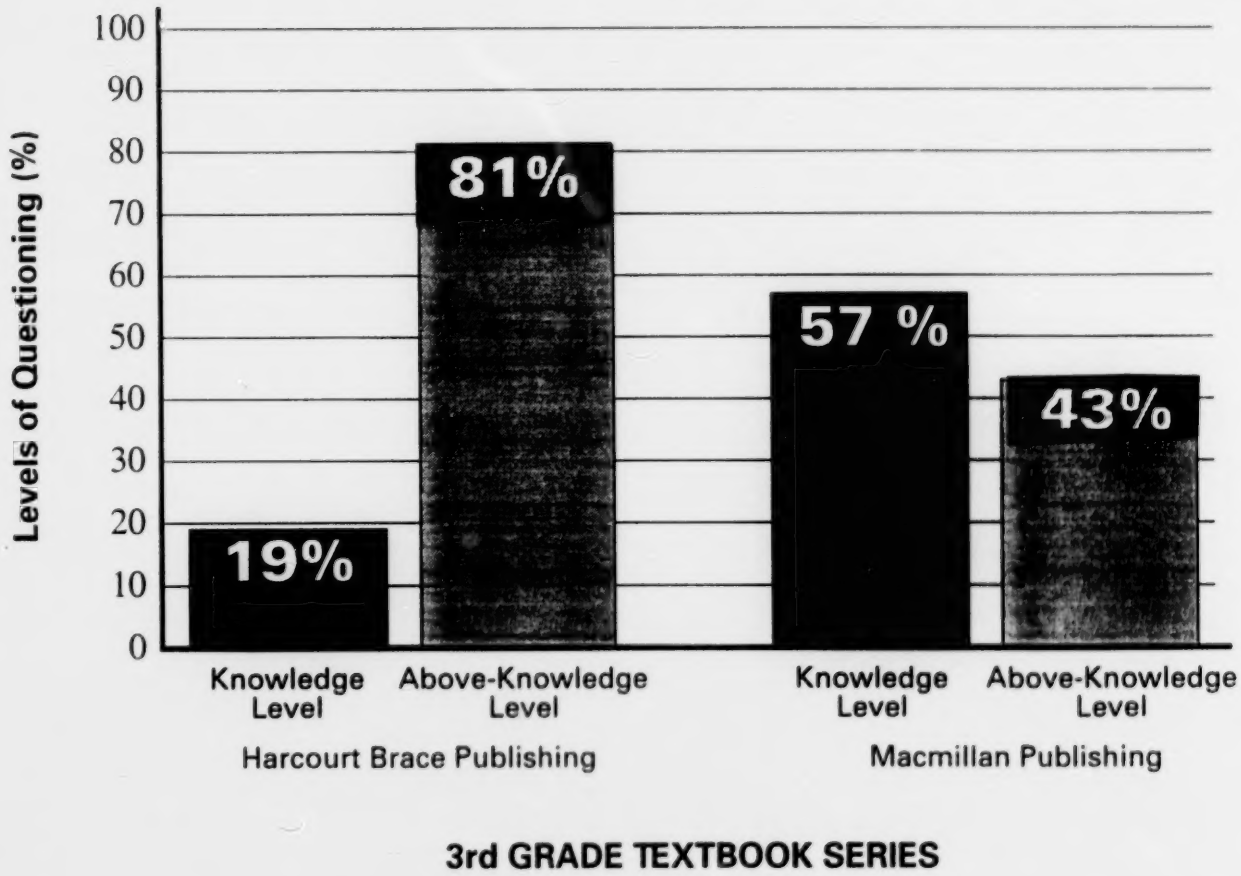

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